

STATE OF VERMONT
PUBLIC SERVICE BOARD

Docket No. 7483

Petition of Westminster Energy Group, LLC, for)
a certificate of public good, pursuant to 30 V.S.A.)
§ 248(j), for authorization to construct a farm-)
based methane-fueled electrical generating facility)
at Westminster Farms, Inc., located on Route 5 in)
Westminster Station, Vermont)

Order entered: 4/8/2009

I. INTRODUCTION

This case involves a petition filed on August 1, 2008, by Westminster Energy Group, LLC ("Westminster"), requesting a certificate of public good under 30 V.S.A. § 248(j) for approval of the installation and operation of a 225 kW methane-fueled electrical generating facility located on a farm owned by Westminster Farms, Inc. in the Town of Westminster, Vermont. Westminster submitted prefiled testimony, proposed findings, and a proposed order pursuant to the requirements of 30 V.S.A. § 248(j).

On August 27, 2008, the Public Service Board ("Board") issued a letter requesting additional information regarding the Westminster farm-methane project, including information addressing whether the project is located in a floodway. On September 17, 2008, Westminster filed a letter that included the Supplemental Prefiled Testimony of Shawn Goodell and a site plan, which provided some of the required additional information. However, Westminster's answer was equivocal regarding whether the project is located in a floodway.

On October 1, 2008, the Board issued a letter to Westminster requiring it to determine whether the project is located within a floodway and provide supporting evidence.

On October 15, 2008, Westminster submitted a letter and supporting documentation containing a written determination that the project is located outside the floodway.

Notice of the filing was sent on October 27, 2008, to all entities specified in 30 V.S.A. § 248(a)(4)(c) and all other interested parties. The notice stated that any party wishing to submit comments as to whether the petition raises a significant issue with respect to the substantive

criteria of 30 V.S.A. § 248 needed to file comments with the Board on or before November 26, 2008. A similar notice of the filing was published in the *Brattleboro Reformer* on October 29 and November 5, 2008.

On November 26, 2008, the Agency of Natural Resources ("ANR") filed a letter stating that the petition is incomplete with respect to the floodways criterion. ANR states that the floodways criterion requires that the Board review the impact of the project on the floodway fringe; ANR further states that the digester is located within a floodway fringe.

On November 26, 2008, the Department of Public Service ("Department") filed a letter stating that it does not believe that the petition raises a significant issue with respect to the criteria of Section 248 and has no objection to the issuance of a certificate of public good. The Department further states that it defers to ANR with respect to the issue of floodways.

On February 4, 2009, Westminster filed additional information regarding the impact of the project on the floodway fringe, including construction design modifications and operating protocols to reduce the impact of the project on the floodway fringe.

On February 20, 2009, ANR filed a letter expressing concern with Westminster's flood hazard protection plan.

On February 27, 2009, the Board issued a memorandum encouraging Westminster to work with ANR to resolve this issue.

On March 30, 2009, Westminster filed a letter and draft proposal for decision that contained several proposed conditions. Westminster represents that ANR has reviewed and approved the proposed conditions.

The Board has determined that the proposed construction will be of limited size and scope and that the petition as supplemented has effectively addressed the issues raised with respect to the substantive criteria of 30 V.S.A. § 248. Consequently, we find that the procedures authorized by Section 248(j) are sufficient to satisfy the public interest, and no hearings are required.

II. FINDINGS

1. Westminster Energy Group, LLC is an entity whose members include Goodell family members. The Goodell family also collectively comprises the sole shareholders of Westminster Farms, Inc., which owns and operates a large dairy farm ("Farm") in Westminster, Vermont. Goodell pf. at 1.

2. Westminster proposes to construct and operate an electrical generating facility (the "Project") which would use the methane gas derived by processing manure and agricultural substrates in an enclosed digester located on the Farm. The generator would produce approximately 225 kW of electricity which would be sold at wholesale to Green Mountain Power Corporation ("GMP") as part of the utility's voluntary renewable pricing program. Goodell pf. at 1, 3, 4.

3. The Project would include the construction of three buildings: an enclosed concrete manure digester (approximately 74' x 76' x 16'); a shed to house the generator (approximately 51' x 50'); and another shed for dry storage (approximately 40' x 72'). Most of the digester would be buried, with approximately eight feet of the structure above ground. The Project would be constructed entirely on the property of the Farm, within the farmstead complex, to the northeast of existing buildings. The new construction would be designed to be consistent with existing structures on the Farm. Goodell pf. at 2, 10; exh. A.

4. The digester would process the cow manure produced at the Farm along with manure and agricultural substrates from neighboring farms, such as manure from farm animals, waste grain, food waste, waste dairy products (e.g., whey), and waste crops or crops grown specifically to use in the digester. The manure and agricultural substrates would be transferred from the receiving pit to the digester to be mixed and heated. The decomposition of the raw manure and agricultural substrates would produce methane biogas and biosolids. The methane would be collected and used to fuel a reciprocating engine that would run a generator and produce energy. The biosolids would be pumped from the effluent pit at the end of the digester to a mechanical separator to separate the liquids and solids. Goodell pf. at 2, 3.

5. The digester would reduce the odor and pathogens contained in the liquid and solid waste by-products of the decomposition process. The solids would be further dewatered and

used in other farm and commercial functions, such as bedding for the Farm's cows, which would allow the Farm to save on the cost of sawdust. Because sawdust contains phosphorous, replacing sawdust with solids for bedding should reduce the amount of phosphorous released into the environment. The liquid waste would be used as fertilizer. Much of the organic nitrogen would be converted to ammonia during the digestion process; therefore, the liquid would be better for crops and less of an environmental hazard. Goodell pf. at 3.

6. The proposed generator is a 225 kW Stamford HC1636G powered by a Guascor combustion engine designed specifically to burn biogas. Goodell pf. at 4.

7. A total of 7 poles, each 45 feet tall, would be installed for the line to connect the generator to existing distribution lines located along Route 5. The generator step-up transformers would be dual voltage to allow for operation after the proposed conversion by GMP of the Westminster distribution lines from 8.32 to 12.47 kV. In addition, a lockable disconnect switch and recloser would be installed where the GMP distribution line enters the Westminster property. Goodell supp. pf. at 1; exhs. H and F.

Orderly Development of the Region

[30 V.S.A. § 248(b)(1)]

8. The project would not unduly interfere with the orderly development of the region, with due consideration having been given to the recommendations of the municipal and regional planning commissions, the recommendations of municipal legislative bodies, and the land conservation measures contained in the plan of any affected municipality. This finding is supported by findings 9 and 10, below.

9. The Town of Windham and the Windham Regional Commission have both endorsed the project. Goodell pf. at 4; exhs. D and E.

10. The town and regional plans both expressly encourage the development of energy conservation and renewable energy resources. Goodell pf. at 4; exhs. D and E.

Need for Present and Future Demand for Service

[30 V.S.A. § 248(b)(2)]

11. The proposed project is required to meet the need for present and future demand for service which could not otherwise be provided in a more cost-effective manner through energy conservation programs and measures and energy efficiency and load management measures. This finding is supported by findings 12 and 13, below.

12. The output of the proposed generator will be needed in that it will be sold at wholesale to GMP as part of the utility's voluntary renewable pricing program under the "GreenerGMP" renewable energy program. If GMP does not use the power to serve its customers, it can be sold at wholesale to meet regional need. Goodell pf. at 5.

13. Development of renewable energy sources is consistent with public policy in the State of Vermont pursuant to 30 V.S.A. § 8001. Goodell pf. at 5.

System Stability and Reliability

[30 V.S.A. § 248(b)(3)]

14. The proposed project would not adversely affect system stability and reliability. Westminster has completed a System Impact Study that indicated that with the improvements set forth in the study, the proposed project would not have any undue adverse impacts on system stability or reliability. GMP has reviewed the System Impact Study and agreed to perform the work as set forth in the System Impact Study. Goodell pf. at 5; Goodell supp. pf. at 2; exh. F at 3.

15. Westminster will pay the entire cost of the work associated with the distribution system upgrades set out in the System Impact Study. GMP will bear the cost of ongoing maintenance. Goodell supp. pf. at 2.

Economic Benefit to the State

[30 V.S.A. § 248(b)(4)]

16. The Project offers many economic benefits to the state and its residents. First, it offers a local source of renewable power which adds diversity to the state's energy mix and displaces

fossil fuel. Second, the Project enhances the economic viability of the Farm. Third, the Project would provide additional, indirect economic benefits. Among these is the reduced likelihood of farms taking land out of production, thus preserving the image of Vermont that is promoted to tourists. Also, manure-spreading at the farm emits odors; the Project would reduce the odor from the manure, thereby benefitting the general public. Finally, other indirect economic benefits to the general public would be improved nutrient management, a locally produced power source, and the reduction of greenhouse gases by removing methane, a significant greenhouse gas, from the atmosphere, by trapping it and burning it as fuel for the generator. Goodell pf. at 6-7.

Aesthetics, Historic Sites, Air and Water Purity,
the Natural Environment and Public Health and Safety

[30 V.S.A. § 248(b)(5)]

17. The Project would not have an undue adverse effect on aesthetics, historic sites, air and water purity, the natural environment and public health and safety. This finding is supported by findings 18 through 48 below, which are the criteria specified in 10 V.S.A. §§ 1424(a)(d) and 6086(a)(1)-(8)(a) and (9)(k).

Outstanding Resource Waters

[10 V.S.A. § 1424(a)(d)]

18. The Project is not located on or near any outstanding resource waters. Goodell pf. at 11.

Water and Air Pollution

[10 V.S.A. § 6086(a)(1)]

19. The Project would not result in undue water or air pollution. This finding is supported by finding 5, above, and findings 20-22, below.

20. The Project would reduce the release of methane gas. Goodell pf. at 6.

21. The Air Pollution Control Division of the Agency of Natural Resources determined that an air pollution control permit is not required. Goodell pf. at 7; exh. G.

22. Noise impacts would be minimized by locating the generator inside an enclosed structure. Goodell pf. at 8.

Headwaters

[10 V.S.A. § 6086(a)(1)(A)]

23. The Project would not have an undue adverse impact on any headwaters as there are no headwaters in the vicinity of the project. Goodell pf. at 8.

Waste Disposal

[10 V.S.A. § 6086(a)(1)(B)]

24. The Project would improve the disposal of cow manure waste over current practice, because the digester is a sealed container which would not release untreated waste. Westminster does not intend to dispose of new waste, nor would there be any new toilet facilities. Goodell pf. at 8.

Water Conservation

[10 V.S.A. § 6086(a)(1)(C)]

25. The Project would not require a new water supply and there should be no impact on existing water use. Goodell pf. at 8.

Floodways

[10 V.S.A. §§ 6086(a)(1)(D)]

26. The project will not restrict or divert the flow of floodwaters or significantly increase the peak discharge of a river or stream within or downstream from the project and endanger the health, safety, or welfare of the public or riparian owners during flooding. This finding is supported by findings 27 through 29, below.

27. The underground digester and wood-framed generator and control building are located within the 100-year floodplain. Exh. G at 1.

28. The base flood elevation ("BFE") is 251 feet. The floor of the generator building is 248.7 feet. Exh. 6 at 1.

29. If constructed properly, the Project structures will not significantly increase the peak discharge of the river within, or downstream from, the development and will not endanger the health, safety or welfare of the public or riparian owners during flooding. Exh. G at 1.

Discussion

On March 30, 2009, Westminster filed proposed conditions to address the concerns raised by ANR regarding potential flooding hazards:

A. Dry Floodproofing of Digester

The digester walls shall be 12-inch wide reinforced concrete. The floor shall be 5-inch thick reinforced concrete.

The digester shall remain full of sludge and/or water during a flood.

Sludge piping shall remain full during a flood.

Gas piping shall be buried at least eighteen inches below grade.

B. Wet Floodproofing of Generator Building

The garage doors in the generator building shall either be equipped with flood vents (or vents may be installed in the building side walls) that meet FEMA size requirements for the building, or the doors shall be equipped with automatic openers designed to open during a flood. The lower three feet of the building shall use water resistant finishes that are durable and resistant to deterioration and mold. The exterior shall be clad with pressure-treated wood or metal. Cavities in the walls shall allow for drainage. Insulation shall be of a type that is not subject to damage from inundation.

Framing shall be secured to the foundation using Simpson H4 "Hurricane" straps at 48 inches on center.

The generator, engine and any electrical or service equipment shall either be elevated above BFE [base flood elevation] or the equipment shall be protected using dry floodproofing techniques.

All exposed electrical wiring shall be elevated above BFE. All other wiring shall be in sealed, watertight conduits and openings elevated above BFE.

All HVAC equipment shall be elevated above BFE. Fuel tanks shall be elevated and anchored. Vents shall be above base flood elevation.

There shall be an emergency flood plan to ensure compliance with those floodproofing procedures that require human intervention, including contingencies relating to filling the digester.

The Board accepts the proposed conditions; we further require that Westminster file an emergency flood plan with the Board and parties.

Streams

[10 V.S.A. §§ 6086(a)(1)(E)]

30. The Project is not located near a stream. Goodell pf. at 8.

Shorelines

[10 V.S.A. §§ 6086(a)(1)(F)]

31. The Project is not located on a shoreline. Goodell pf. at 8.

Wetlands

[10 V.S.A. § 6086(a)(1)(G)]

32. The Project would not adversely affect any wetlands. This finding is supported by findings 33 and 34, below.

33. Wetlands are located on the farm. However, the Project would be constructed on farm property that has already been developed, and no development related to the Project would occur on or near wetlands. Goodell pf. at 9.

34. None of the farm operations associated with the Project would occur on or near wetlands. Goodell pf. at 9.

Streams

[10 V.S.A. §§ 6086(a)(1)(E)]

35. The Project is not located near a stream. Goodell pf. at 8.

Shorelines

[10 V.S.A. §§ 6086(a)(1)(F)]

36. The Project is not located on a shoreline. Goodell pf. at 8.

Sufficiency of Water and Burden on Existing Water Supply

[10 V.S.A. §§ 6086(a)(2)&(3)]

37. The Project would not use water during or after construction, and therefore would not place a burden on existing water supplies. Goodell pf. at 9.

Soil Erosion

[10 V.S.A. § 6086(a)(4)]

38. The Project would not cause unreasonable soil erosion. Goodell pf. at 9.

39. The only earth disturbance associated with the project would be limited to the farmstead complex and would not alter existing topography. Goodell pf. at 9.

Transportation Systems

[10 V.S.A. § 6086(a)(5)]

40. The Project would not have a significant impact on any means of transportation. The Project would be located on an existing farm in a rural location, and thus it would not cause unreasonable congestion or unsafe conditions even with increased truck traffic. Goodell pf. at 9.

41. Manure and agricultural substrates would come from the Farm and neighboring farms. Agricultural substrates from other farms would be transported by truck. Goodell pf. at 9.

42. Using manure from the Farm would result in a decrease of 8 truckloads per month, because the Farm would not need to import sawdust. The maximum number of truckloads per month of off-farm substrate would be 31. Thus, the Project would result in a maximum net increase of 23 delivery truckloads per month. Goodell pf. at 9.

Educational Services

[10 V.S.A. § 6086(a)(6)]

43. The Project would have no impact on the ability of any municipality to provide educational services. Goodell pf. at 10.

Municipal Services

[10 V.S.A. § 6086(a)(7)]

44. The Project would not require any municipal or governmental services. Goodell pf. at 10.

**Aesthetics, Historic Sites
and Rare and Irreplaceable Natural Areas**

[10 V.S.A. § 6086(a)(8)]

45. The Project would not have an undue adverse impact on the scenic or natural beauty of the area, aesthetics, historic sites, or rare and irreplaceable natural areas. This finding is supported by findings 46 through 48, below.

46. Because the Project would be constructed on farm property that has already been developed, the Project would have little visual or aesthetic impact. Goodell pf. at 10.

47. There are no historic sites or rare and irreplaceable natural areas that would be disturbed by the Project. Goodell pf. at 10.

48. The aesthetic impacts of the seven new power poles would be minor because the power poles would be located in close proximity to the farmstead complex, which is a collection of large barns and outbuildings. The poles would not be running through what would otherwise be an open, undisturbed area. Goodell supp. pf. at 1; exh. H.

Necessary Wildlife Habitat and Endangered Species

[10 V.S.A. § 6086(a)(8)(A)]

49. The Project would not have any impact on wildlife habitat or on any threatened or endangered species. Goodell pf. at 10.

Development Affecting Public Investments

[10 V.S.A. § 6086(a)(9)(K)]

50. The Project would not unnecessarily or unreasonably endanger the public or quazi-public investment or government or public facilities. The only public investment near the Project

is Route 5, the road from which the farm is accessed. The Project would not adversely affect the use of this road by the public. Goodell pf. at 11.

Least-Cost Integrated Resource Plan

[30 V.S.A. § 248(b)(6)]

51. Westminster does not distribute or transmit electricity for use by the public. Therefore, it is not obligated to prepare and submit for approval an integrated resource plan. *See*, Docket No. 7082, Order of 4/26/06 at 54.

Compliance with Electric Energy Plan

[30 V.S.A. § 248(b)(7)]

52. The Project is consistent with the *Vermont Twenty-Year Electric Plan*. Goodell pf. at 11.

53. The Department filed a determination, in a letter dated November 26, 2008, that the proposed project is consistent with the Vermont Twenty-Year Electric Plan, in accordance with 30 V.S.A § 202(f).

Outstanding Resource Waters

[30 V.S.A. § 248(b)(8)]

54. The Project is not located near any outstanding resource waters. Goodell pf. at 11.

Existing or Planned Transmission Facilities

[30 V.S.A. § 248(b)(10)]

55. With the development of an appropriate interconnection agreement, the Project can be economically served by existing transmission facilities without any adverse impacts on Vermont utilities or customers. Prior to operation of the Project, Westminster will enter into an interconnection agreement with GMP. Goodell pf. at 11.

III. CONCLUSION

Based upon all of the above evidence, we conclude that the proposed construction will be of limited size and scope; the petition does not raise a significant issue with respect to the substantive criteria of 30 V.S.A. § 248; the public interest is satisfied by the procedures authorized by 30 V.S.A. § 248(j); and the proposed project will promote the general good of the state.

IV. ORDER

IT IS HEREBY ORDERED, ADJUDGED AND DECREED by the Public Service Board of the State of Vermont that the proposed Project, in accordance with the evidence and plans presented in this proceeding, will promote the general good of the State of Vermont in accordance with 30 V.S.A. Section 248, and a certificate of public good shall be issued in the matter, subject to the following conditions:

1. The Project shall be constructed in accordance with the evidence and plans submitted in this proceeding.
2. Westminster Energy Group, LLC ("Westminster") shall comply with the recommendations contained in the System Impact Study.
3. Prior to operation of the Project, Westminster shall enter into an interconnection agreement with Green Mountain Power Corporation.
4. Westminster shall comply with the following conditions regarding floodproofing:
 - A. Dry Floodproofing of Digester
 - i. The digester walls shall be 12-inch wide reinforced concrete. The floor shall be 5-inch thick reinforced concrete.
 - ii. The digester shall remain full of sludge and/or water during a flood.
 - iii. Sludge piping shall remain full during a flood.
 - iv. Gas piping shall be buried at least eighteen inches below grade.
 - B. Wet Floodproofing of Generator Building
 - i. The garage doors in the generator building shall either be equipped with flood vents (or vents may be installed in the building side walls) that meet FEMA size requirements for the building, or

the doors shall be equipped with automatic openers designed to open during a flood. The lower three feet of the building shall use water-resistant finishes that are durable and resistant to deterioration and mold. The exterior shall be clad with pressure-treated wood or metal. Cavities in the walls shall allow for drainage. Insulation shall be of a type that is not subject to damage from inundation.

ii. Framing shall be secured to the foundation using Simpson H4 "Hurricane" straps at 48 inches on center.

iii. The generator, engine and any electrical or service equipment shall either be elevated above BFE [base flood elevation] or the equipment shall be protected using dry floodproofing techniques.

iv. All exposed electrical wiring shall be elevated above BFE. All other wiring shall be in sealed, watertight conduits and openings elevated above BFE.

v. All HVAC equipment shall be elevated above BFE. Fuel tanks shall be elevated and anchored. Vents shall be above base flood elevation.

vi. There shall be an emergency flood plan to ensure compliance with those floodproofing procedures that require human intervention, including contingencies relating to filling the digester. Westminster shall file the emergency flood plan with the Board and the parties.

Dated at Montpelier, Vermont this 8th day of April, 2009.

<u>s/James Volz</u>)	
)	PUBLIC SERVICE
)	
<u>s/David C. Coen</u>)	BOARD
)	
)	OF VERMONT
<u>s/John D. Burke</u>)	

OFFICE OF THE CLERK

FILED: April 8, 2009

ATTEST: s/Judith C. Whitney
Deputy Clerk of the Board

Notice to Readers: This decision is subject to revision of technical errors. Readers are requested to notify the Clerk of the Board (by e-mail, telephone, or in writing) of any apparent errors, in order that any necessary corrections may be made. (E-mail address: psb.clerk@state.vt.us)

Appeal of this decision to the Supreme Court of Vermont must be filed with the Clerk of the Board within thirty days. Appeal will not stay the effect of this Order, absent further Order by this Board or appropriate action by the Supreme Court of Vermont. Motions for reconsideration or stay, if any, must be filed with the Clerk of the Board within ten days of the date of this decision and order.